

DESCRIPTIONS OF NEW SPECIES OF TORTRICID MOTHS,  
FROM NORTH CAROLINA, WITH NOTES.

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I am indebted to my friend, Dr. Harrison G. Dyar, for the opportunity of working up a most interesting and remarkable collection of Tortricids, made by Mr. W. F. Fiske during the summer of 1904 in Tryon, North Carolina. In a total of only 80 specimens there are nearly 50 species, of which about a dozen are, to the best of my belief, new to science. The specimens were taken at light, flying into the open windows during the evenings.

This list covers the entire collection made by Mr. Fiske, excepting a single specimen each of two species. I think both are new, but as I am unable to find duplicates in my unnamed material I hold them back for next year's catch, as it is undesirable to make species from single examples, if it can possibly be avoided.

*EVETRIA GEMISTRIGULANA*, new species.

Head, palpi, and thorax light gray, speckled with fuscous and black; the darker shades predominating on outer sides of palpi and patagia. Antennæ light gray, annulated with black, very shortly ciliated in male. Palpi short, scarcely extending beyond face, porrect; outer joint short, black, exposed; tuft on second joint flattened, neither compressed or loosely scaled, longer on upper than lower side. Forewing pale, rather lustrous gray, crossed transversely by many interrupted lines and narrow bands of black. The gray appears to be laid on a black ground rather than the reverse, and the gray lines are usually in pairs. In basal area, which is not very distinctly defined, occupying the inner quarter, three geminate white lines are more or less fused together; beyond, to the outer margin, they are more distinctly in pairs, of which, between inner fourth and apex, are about six on costa, extending a third or half the width of wing; below these other abbreviated pairs continue to the dorsal margin, but, excepting one line just before the outer marginal lines, none continue unbroken from costa to dorsum. There is a tendency in several specimens for

the black to overrun the gray in three rather distinct spots, two on costa, one beyond middle, and one before apex, and on dorsum half way between the two costal spots. A rather large triangular black spot on the extreme apex, and between it and the base the costa is rather evenly marked by alternate gray and black, about twelve to fifteen of each. This number is reduced on the specimens with large black costal blotches. Of the four specimens before me no two are exactly alike in the proportions of light and dark colors, nor is the lineation sufficiently duplicated to describe one in detail as the type. Cilia gray. Hind wing, upper and lower sides dark gray, cilia paler. Under side front wing dark fuscous, with whitish costal and dorsal marks repeated from above. Abdomen and anal tuft gray. Expanse 19 to 21 mm. Four male specimens May 17 to 25; collected by Mr. Fiske, Tryon, North Carolina.

*Cotypes*.—Cat. No. 8238, U. S. Nat. Mus., and in my collection.

I place this species temporarily in *Ectyria*, as it seems nearer to it than any other familiar to me. Veins IV and V of front wings are not connate; they arise separately, but very close together. Veins III and IV of hind wings are stalked for half their length. No costal fold in the male. The frenulum fold on under side of forewings extends to outer three-fifths.

POLYCHROSIS LIRIODENDRANA Kearfott.

One female, August 8. Exactly like type and easily recognized by the reddish-ocherous appearance of the forewings.

OLETHREUTES HEBESANA Walker.

Three specimens, May 9 and August 13.

PSEUDOGALLERIA INIMICELLA Ragonot.

One male, July 7.

EUCOSMA QUINQUEMACULANA Robinson.

One male, no date of capture.

EUCOSMA ROBINSONIANA Grote.

One female, June 4.

EUCOSMA ROBINSONIANA Grote var TRYONANA, new variety.

Head and thorax pure white; a collar of olive brown divides head from thorax, crosses shoulders of patagia and runs into the ground color of forewings on the costa. Palpi white, inwardly and above, fuscous outwardly. Antenna pubescent, light gray, narrowly darker between joints, enlarged basal joint pure white. Forewing pale olive brown, with two white spots on outer half of costa, each inclosing a

small dot of ground color; two vertical white fascia arising from inner half of dorsal margin, but reaching only to upper vein of cell; a large white spot in anal angle with a small round white spot before and beyond it, these two being sometimes joined to the large spot; a small white spot on outer margin below apex and a tiny white patch at extreme base, a continuation of the white scales of thorax. These white spots are all narrowly bordered by darker-blackish lines. Cilia dull fuscous. Hindwing fuscous, cilia paler. Underside: forewing dull smoky fuscous, with white spots on costa faintly repeated from above, cilia same; hindwing slightly paler than fore wing. Abdomen fuscous, anal tuft cinereous. Legs white, annulated with olive-brown. Expanse 16.5 to 17.5 mm. Three male specimens. Tryon, North Carolina, collected by Mr. Fiske, May 17 to June 1.

*Cotypes*.—Cat. No. 8239, U. S. Nat. Mus., and in my collection.

It differs from *robinsoniana* in larger size, paler ground color, and especially in the white spot at anal angle, which is, in this variety, a cluster of three or four smaller spots, more or less joined, while in *robinsoniana* this spot is simple and covers less than one-third of the area. In Bulletin 52, U. S. National Museum, *robinsoniana* is made a synonym of *quinquemaculana* Robinson. But a study of the types at the Academy of Natural Sciences, Philadelphia, and the possession of a long series of both forms convinces me of their distinctness. *Quinquemaculana* differs from either of the above by: Head, thorax, and palpi brown, not white; position of two inner bands not the same; the inner is a basal patch and the second one is double the width and reaches to the costa. The outer costal spots do not inclose a dot of ground color and are of different shape and size, which is also the case with the spot on anal angle, and most notably all the spots of *quinquemaculana* are silvery white, while those of *robinsoniana* and *tryoniana* are dull white. I have male and female of both Robinson's and Grote's species, and they show no sexual difference.

#### EUCOSMA ADAMANTANA Guenée.

Three specimens, September 1. Both Mr. E. Daecke and I have taken this species early in September, near Hammonton, South New Jersey, and I believe these and Mr. Fiske's captures are the first that have been made since Guenée's time; as his description<sup>a</sup> is not readily accessible, it will be of interest to add that the species can be at once recognized by the almost perfect rusty-red cross on each fore wing, on a bright silver background. The longer limb of the cross arises on dorsal margin, close to base, and continues into apex, the cross-bar begins at center of costa and goes to anal angle. There is no other species of *Eucosma*, known to me, at all near this style of ornamentation. Mr. Daecke has most thoroughly worked this South New

<sup>a</sup> Ann. Ent. Soc., Fr. (2), III, 1845, p. 303. (Type, from New Jersey.)

Jersey region, from earliest spring to late in the autumn, and, except in September, has never seen the species, it is therefore reasonable to assume that it is one-brooded, and I venture the assertion that the larvæ of this, as well as the majority of other silver-marked *Eucosma*'s, are borers or internal feeders.

*EUCOSMA CIRCULANA* Hubner.

One male, August 1. Exactly like Hubner's figure. Type was from Pennsylvania.

*EUCOSMA PERGANDEANA* Fernald.

One male, May 31.

*EUCOSMA GRACILIANA*, new species.

Head, palpi, thorax, and fore wings pale fawn brown. Outer ends of scales of palpi stained with fuscous.

Forewing.—Inner two-thirds of costa alternate short oblique lines of white and fuscous brown, in outer third same formation is continued, but ground color replaces the fuscous brown, and silvery metallic overlay the white. A vertical white line occupies the extreme apex, and on costa before and close to it are two other lines; the length of these three lines is nearly one-third the width of wing; the central one is most heavily metallic, while that on apex is simply dull white. Before this group of three vertical lines, and counting toward base, with apical spot number one, the fourth, sixth, and eighth are prolonged obliquely, then horizontally outward, the outer ends of the two former coming together, the extensions heavily overlaid with metallic. The ocellic spot is large, its inner side formed of a vertical metallic bar over one-third the width of wing; a similar bar defines the outward edge, but it is broken near lower end and slightly turns inward toward anal angle. Between these two bars are two narrow horizontal black lines, connecting them together at the top; a third line is indicated below by a few black scales. Above the ocellic spot on outer margin is a small metallic spot. All of the interior of the wing, below the costa and before the ocellic spot, is rather evenly dotted with metallic, arranged in rather straight horizontal lines, of which three lines are above and three below the fold. The dots in the subcostal line have a tendency to run together in groups of two or three; all others are separate. A scale or two of fuscous usually accompanies the metallic scales wherever they occur.

Male costal fold closely compressed, about one-fourth length of wing, a shade or two more tawny than general ground color. Cilia pale cinereous, heavily powdered basally with tiny black dots. Hind wing fuscous, cilia white, underside same, but a shade paler. Underside fore wing smoky fuscous, costa marked with dark blackish dots, cilia

pale cinereous. Abdomen fuscous, anal tuft cinereous. Legs pale cinereous, shaded with brown, tarsi annulated with brown. Expanse 16.5 to 19 mm.

Four males, Tryon, North Carolina. Two, May 20-22; two, July 3-24.

*Cotypes*.—Cat. No. 8240, U. S. Nat. Mus., and in my collection.

I have hesitated some time before describing this species, as there are several already described similar to it, and it seemed as though a place could be found for it. The nearest to it and their differences are as follows:

*E. irroratana* Walsingham is fawn colored, and is dotted with shining scales, but the interior scales are arranged in wavy lines, the ocellic spot contains a number of black dots—not bars, no reference in the description to the very distinct costal markings; 50 per cent or more larger; habitat California.

*E. atomosana* Walsingham is milk white, reticulated with fawn and irrorated with fuscous (not shining), only 10 to 20 per cent larger, but hailing from California.

*E. cataclystiana* Walsingham. This is a common Eastern species of about the same shade of brown, but the interior lustrous dots are entirely absent.

*E. monogrammana* Zeller is much paler, less dots, different ocellic and costal arrangement, and more nearly resembles *atomosana*.

*E. albiguttana* Zeller is very close, the marking is almost identical, but is only about half the size, the interior dots are arranged in four or five vertical rows and are far less numerous proportionately; the hind wings are paler, and the metallic lines around the ocellic spot somewhat different. Additional study may prove *graciliana* nothing more than a gigantic race of *albiguttana*, hence it should be placed next to it in the list.

#### EUCOSMA PALLIDIPALPANA, new species.

Head with long loose scales in front and on top, pale ochreish at base, pure white at tips; second joint of palpi clothed with long loose white scales, concealing third segment, shaded basally and outwardly with pale ochreish. Thorax dull ochreish. Fore wing pale fawn or dull ochreish. The ground color only in patches along dorsal margin, streaks along outer half of costa and before outer margin. The costa from base to apex is white, evenly marked with about sixteen short oblique grayish-brown dashes, arranged in eight geminated spots; a little beyond base a white transverse line is overlaid on its middle by brownish-fuscous. From about the inner third of costa another such line goes obliquely to the anal angle; at about the middle of the wing a right-angled spur from this to dorsal margin; half-way between this first spur and anal angle a second points toward costa, but

only reaches half-way through cell, where it runs into a large patch of brownish scales on the upper half of outer quarter. A narrow line of brown scales runs through upper half of cell from oblique line to outward patch. From the third from costa geminated spot a lustrous white line runs below the costa and before apex turns down to ocellie patch; from second spot before apex a shorter line of the same scales runs into the first line. Ocellie patch large, lustrous white inwardly, with two or three black dots on each side, a smaller white spot just below middle of outer margin and a smaller white dot below this, the latter only separated from the large white patch by a black line; above the latter and between the large patch and outer margin is a small round spot of ground color, nearly surrounded by narrow black lines; above it are three horizontal black dashes. There is a broken line of black scales dividing the upper white spot, thence running into anal angle through outer margin. The dorsal margin is narrowly, for its entire length, marked with white and fuscous scales, increasing to a triangular patch in the middle (where first spur runs into dorsum). The apical spot is flat triangular inclosed in white. Cilia and outer margin light gray, closely speckled with light brown. Hind wings fuscous, cilia paler, same beneath. Under-side forewing fuscous, with white costal dots repeated. Abdomen fuscous, legs whitish, tarsi annulated with light brown. Expanse 11.5 to 13.5 mm.

Nine specimens: Tryon, North Carolina (Fiske); Washington, District of Columbia, June and July (Busek); Fortress Monroe, Virginia, July 19 (Kearfott).

*Cotypes*.—Cat. No. 8241, U. S. Nat. Mus., and in my collection.

I should place this species in the *cataclystiana* group, and close to *imbricata* Fernald, which it somewhat resembles, but is much smaller.

#### EUCOSMA GIGANTEANA Riley.

Four specimens, August 5 to 27.

#### EUCOSMA JUNCTICILIANA Walker.

One male, August 13. Agrees with the Eastern form of this species, in which the oblique median line has a small outward hump about its middle, while all of the Northwestern and Californian specimens I have seen has this line perfectly even on its outer edge.

#### EUCOSMA ABRUPTANA Walsingham.

Three specimens: June 2, July 5, and August 18. These dates show a rather long period of emergence. The insect is probably single brooded and the larvæ borers or internal feeders like allied species.

## EUCOSMA SCUDDERIANA Clemens.

One male, April 24 at light. Larvæ make round galls on stems of golden-rod.

## EUCOSMA OTIOSANA Clemens.

One male, June 30. In the winter time, in all parts of northern New Jersey, the larvæ of this species can be found in the dried, previous summer's stalks of *Bidens frondosa* Linnaeus or beggar ticks, pupating within the stalk in May and issuing during June.

## EUCOSMA DORSISIGNATANA Clemens var. CONFLUANA, new variety.

*Dorsisignatana* is deep chocolate brown, overlaid with grayish scales, except on two bold distinct separate spots—one on dorsum before middle and one on costa beyond middle. In variety *confluana* the two spots are joined together; the dorsal end is narrower, the whole representing rather an inflated comma. The ground color is also more of a reddish brown, and the hind wings are much paler. I have about forty specimens of the two forms in my collection, and the difference is constant; the spots are either entirely separate or joined. Clemens had this form before him when describing *dorsisignatana*, and described it under the name of *similana*, adding that it might be the female of the preceding. *Similana* is preoccupied in this genus, hence Clemens's name can not represent the variety: it is quite possible, however, after more is known about the Tortricids, that Hübner's species and Clemens's species may fall into different genera, when *confluana* will be superseded by *similana* Clemens. Expanse 18 to 21 mm. Twelve specimens, male and female. Essex County, New Jersey, August 24 to September 5 (Kearfott); Winchenden, Massachusetts, August 24 to September 1 (Merrick); New Brighton, Pennsylvania, August 28 to September 1 (Merrick).

*Cotypes*.—Cat. No. 8248, U. S. Nat. Mus., and in my collection.

## EUCOSMA DORSISIGNATANA var. DIFFUSANA, new variety.

In separating the above another variety seems to be constant; it is of the dark chocolate form, but so heavily overlaid with gray scales that only the lower half of the dorsal spot is distinctly defined, all the balance of the forewing being an almost fuscous brown. Expanse 15 to 22 mm. Eleven specimens: Tryon, North Carolina, August 8 (Fiske); New Brighton, Pennsylvania, August 30 (Merrick); Vernon Parish, Louisiana, August (G. Coverdale); Newark, New Jersey, September 19 (Weidt); Charleroi, Pennsylvania, September 1 (Merrick); Essex County, New Jersey, September 16 (Kearfott).

*Cotypes*.—Cat. No. 8249, U. S. Nat. Mus., and in my collection.

## EUCOSMA MINUTANA, new species.

Face and palpi cinereous, tuft on second joint outwardly rounded, third joint concealed; top of head, thorax, and forewing dark gray, minutely and closely dotted with cinereous. An oblique paler shade, from inner third of dorsal margin, defines the basal area; the line of demarcation is sinuate, with three outward and two inward indentations to middle of wing, where it disappears. Ocellic spot small, rounded, cream white, with a black horizontal dash about its middle which cuts through its outer side; another black dash on the upper edge, immediately above the lower. These two black dashes are so arranged that, under a glass, the white ocellic spot has the appearance of a compressed interrogation mark, or comma laid on its side, with the straight end pointing to the outer margin. Several other black dots partly surround the white spot—one, a dash, before it, and above the dash a smaller dot; another vertical dash defines the outer end of the comma. The costa—from inner third to apex—is marked with gradually increasing in size triangular oblique dark-brown dashes, each edged with cream white, irregularly arranged as four sets of geminate spots. The apical spot is cream white, divided by brown line; the costal spot before the apical sends a long, dark-bluish line obliquely to outer margin, then turns downward to top of ocellic spot, where it unites with a similar line out of apex. Cilia same as ground color, and with the space beyond the ocellic and subapical marginal lines forming quite a wide marginal band. Hind wing and cilia smoky brown, a shade paler beneath. Underside forewing dark brown, with whitish marks repeated on costa. Abdomen and legs gray, speckled with light brown, tarsi annulated with cinereous. Expanse, 9 to 14 mm. About forty specimens. Tryon, North Carolina, May 24–25, Fiske; Cincinnati, Ohio, May 21 to August 17, Miss Braun; New Brighton, Pennsylvania, May 20, Merrick; Plummers Island, Maryland, July, Busek; Belvidere, Illinois, August, Snyder; Smith County, Tennessee, June, Kemp; Anglesea, New Jersey, June 22, and Essex County Park, New Jersey, May 18, Kearfott.

*Cotypes*.—Cat. No. 8242, U. S. Nat. Mus., and in Miss Braun's, Mr. Merrick's, and my own collection.

I have long had these specimens mixed with *E. strenuana* Walker, which it is superficially much like, excepting very much smaller size. But, in addition to the size, it can be separated by grayer ground color, difference in ocellic spot, and arrangement of costal spots. Structurally, the forewings are more than three times as long as wide, much narrower than *strenuana*. The outer margin of forewing of both species is sinuate, thus differing from *E. circulana*, which is the type of the genus; and therefore when this cumbersome genus is divided, both of these species will fall into a different genus.



## EUCOSMA SOMBREANA, new species.

Head very pale brown or bleached straw color, palpi brown, speckled with minute paler atoms, tip of third joint not exposed, thorax same as palpi. Forewing reddish brown, heavily dusted on inner half with cinereous. From middle of costa the cinereous scales form a straight line pointing to anal angle, but interrupted before middle, then continued to anal angle as golden metallic scales; at angle the metallic line is continued up along the outer margin to its middle, thence inward, and almost meets a spur of the middle line, altogether inclosing a vertical ovate section of the red-brown ground color. On costa beyond middle line are six more or less obscure oblique short lines of cinereous, the lower end of each becoming metallic. Entire length of costa cinereous speckled with brown and a preciliate line of the same. There is a very obscure broad paler transverse fascia beyond middle of wing, defined more clearly on the lower half, where it contrasts with a darker shade before it; other specimens are better described by saying that a darker shade rising from inner fourth of dorsum obliquely toward costa, but on cell coalescing with outer ground color. This dark shade is caused by the absence of the cinereous dots. Male costal fold very wide and three-fifths the length of wing. Cilia fuscous, speckled with whitish. Hind wing dark smoky brown, cilia paler, preceded and divided by paler lines. Under side forewing clay-brown basal and central part of wing, dull ochereous around edges. Hind wing dull ochereous. In other specimens the ground color of upper side of forewing is darker red-brown, almost purple brown, and the cinereous dusting less in evidence; the under sides of these darker specimens is almost a uniform dark brown, with slightly paler cilia. The females seem to be less cinereous and to have more metallic lines on outer half of costa and below apex, but as all before me are rather badly rubbed, this may not be true in fresh specimens.

Abdomen, fuscous mixed with cinereous scales. Legs dull ochereous, tarsi annulated with brown. Eight males, expanse 20 to 25 mm., four females expanse 20 to 23 mm. Tryon, North Carolina, July 14, Fiske; Chicago, Kwiat; Cincinnati, Ohio, August 2, Miss Braun; Scranton, Pennsylvania, July 26, Lister; Plummers Island and Cabin John Bridge, Maryland, August 1-10, Busck; Montclair, New Jersey, Electric Light, August 4, Kearfott.

*Cotypes*.—Cat. No. 8243, U. S. Nat. Mus., and in collections of Miss Braun, Mr. Lister, and my collection.

I think the larvæ of this species will be found to be a borer in the stems of possibly an annual plant, there seems to be a small race with both males and females about 20 mm., and a large race with both sexes from 23 to 25 mm. This can be accounted for by the supposition that some larvæ have lived in small and others in large stems. I would

place this species close to *E. dorsisignatana* Clemens, which it rather resembles in size, shape, and general robust appearance, superficially much like a moderate sized noctuid.

*EUCOSMA RUSTICANA*, new species.

Head, palpi, and thorax, shades of brown; face, inner and upper sides of palpi, light fawn brown; lower and outer edges of palpi and ends of scales on top of head, dark smoky brown; thorax and patagia light fawn, overlaid, especially anteriorly, with darker brown. Forewing the same shades of brown as above, the costal half dark smoky or blackish brown, the dorsal half and outer margin light fawn brown. The shades are not sharply divided and differ more or less in different specimens. The costa is darkest, and is marked by nine or ten black dots; between those on outer half are geminated streaks of a lighter shade. Below the costa the dark shades are in irregular horizontal lines from base to beyond end of cell, the dark color is rather concentrated at end of cell, and at the upper end is a small ovate pale line inclosing a black dot. The ocellic space is large, pale fawn, with one horizontal dark streak on its upper side in the male and two streaks in the female. Before this spot, running obliquely inward toward dorsal margin, is a line of dark scales. The dark shades almost entirely overlay the light shades on the dorsal half of the female from base to ocellic spot. Apex marked with a small rectangular pale fawn dot, with black dots before and below it. Cilia pale fawn, with three or four darker dots on upper half. Hindwing very dark smoky brown; cilia pale fawn, with a slightly darker line at its base. Under sides of both wings much like the upper sides, but the shades are more diffuse. Abdomen dark brown, anal tuft light brown. Legs pale brown, first and second pairs and tarsi of third, annulated with dark blackish brown. The male costal fold is rather narrow and not quite half the length of the wing.

Six specimens: Tryon, North Carolina, Fiske, May 13 and 22, August 1; Kerrville, Texas, Doctor Barnes; Algonquin, Illinois, June 4, Doctor Nason.

*Cotypes*.—Cat. No. 8244, U. S. Nat. Mus., and in my collection.

*EUCOSMA FISKEANA*, new species.

Head, thorax, and palpi cinereous brown, palpi with black tip of third segment visible, although scales of second joint project beyond it below, scales of palpi shaded with dark brown at tips and an oblique streak of same close to base on outer side.

Forewing ashy gray with dark brown fascia and spots. Basal area dark brown, overlaid with gray above dorsum, and strigulated with darker transverse lines, covers inner fourth of costa, angles outward to middle of wing, thence obliquely inward to dorsum, between latter and middle slightly indented. Beyond is an irregular oblique fascia

of ground color sharply defined only on upper half, strigulated with darker transverse lines. This shade really covers all of the wing beyond basal area, but interrupted as follows: In the middle of costa a triangular dark brown patch, its lower point reaching to median line; it is interrupted on costa by a pair of ground color lines, the inner curling inward and blocking off a rectangular costal spot of the dark color. Before the anal angle a triangular brown spot extends to middle of wing; it is separated from the costal patch by a broad band of ground color; it is darkest at its upper end and outwardly and upwardly defined by a paler luteous line. Arising from the anal angle and following outline of outer margin to middle, thence curving evenly inward beneath the costal spots, is a broad line, swelling out into a flattened ovate spot above, pale brown on its lower half, gradually becoming darker to the lunate spot, which is jet black. The ocellic spot between this and the dorsal triangular spot is luteous gray, with the flattened black dots in a vertical line; the upper one is the most constant and largest. The apical spot is moderate on costa, but extends down to nearly middle of wing on outer margin; between this spot and the rectangular brown spot on middle of costa are three large brown costal spots, separated from each other by geminated luteous lines, the line between third and fourth spots from apex (counting apical spot as number one) borders the outer spots below and runs into the outer margin, thence upward to apex, outlining the apical spot. Cilia gray.

Hindwing smoky-brown, cilia gray, divided by a slightly darker line. Under side forewing, dark smoky brown with paler geminations along costa and a paler shade before cilia which is cinereous. Under side hind wing grayish brown, reticulated transversely over its entire surface with darker brown lines. Cilia grayish brown with an outer and middle line of fuscous. Abdomen grayish brown, anal tuft dark brown. Legs same annulated and shaded with dark smoky brown. Expanse, male 23 to 24.5 mm.; female 29 mm. Two males, one female, Tryon, North Carolina, August 2-11. Collected by Mr. W. F. Fiske, whose name I take pleasure in giving to this species.

*Cotypes*.—Cat. No. 8245, U. S. Nat. Mus., and in my collection.

#### EUCOSMA CONSTRICTANA Zeller.

Two specimens, August 8. Differing from Texan specimens in my collection, the shades of which are reddish brown, in being shades of steel gray and black. Further material may prove these specimens to be a good variety or different species.

#### THIODIA RADIATANA Walsingham.

One male, May 1. Quite badly rubbed, but probably this species, or one of the closely allied, of which I have five awaiting opportunity for description.

## ANCYLIS ALBACOSTANA, new species.

Head, on top, cinereous, mixed with ferruginous scales, a collar of whitish next to thorax, in front brown. Palpi cream white; ends of scales of second joint, which conceal the third joint, dark brown; a few scales of this color on outer sides of palpi. Antennae cinereous. Thorax next to head a transverse band of lead color, another band of this color crosses the middle, each followed by a band of whitish. Patagia and thoracic tuft lead color at base, tips white. Fore wing lead color, rather heavily overlaid on inner two-thirds below the costa with brownish and blackish scales. From the base to the apex on the costa is a pure white band, widest at end of cell, where it is nearly a quarter the width of wing; continuing to base with only a trifle less width, and lower edge curving evenly into costa and ending in a point at apex. Below the white streak, on the inner half, are a number of small black dots; three below the fold are well defined, close together in a line in the second quarter; the inner one is single, the middle has a slight projection on the fold, and the outer one is double, its upper half being above the fold. Another black dot is on the upper gray edge, and is conspicuous against the white background above its upper half, before the inner fourth, and is connected by a darker streak with the inner of the three dots below the fold. Many other darker transverse streaks or strigulations cross the lead-color area. The ocellic area and outer margin below apex are dusted with white, a small, round, lead-color spot at anal angle and above it a vertical flattened ovate spot of same color; each are encircled by a line of whitish scales. The apex and the streak between this paler area and the white costal band is dark brown; in the apex is a small ocellus, a circle of black inclosing a dot of lead color and surrounded by dull ochereous. Cilia at apex cinereous, tinged with ferruginous, below apex pure white. Hind wings brownish fuscous above, pale fuscous below. Underside fore wing fuscous, whitish streak repeated along costa, cilia white below apex. Abdomen and legs fuscous, tarsi annulated with dark brown. Expanse 19 mm. Two female specimens: One Tryon, North Carolina, May 11, Fiske; one Colorado, National Museum, Accession Catalogue No. 45.

*Cotypes*.—Cat. No. 8246, U. S. Nat. Mus., and in my collection.

In describing this species from two females I run the risk of a generic error, but the falcate apex and venation agree with our definition of *Ancylis*.

## ANCYLIS SEMIOVANA Zeller.

One male, May 20.

## ANCYLIS DUBIANA Clemens

One male, May 25.

## ANCYLIS GOODELLIANA Fernald.

One male, May 7.

## ANCYLIS DIMINUATANA, new species.

Head and thorax white, speckled with fuscous. Palpi white, tips of scales above and two spots on outside fuscous. Antennae golden brown. Fore wing creamy white; a seal-brown shade from base, over middle of wing to end of cell, thence to apex. The lower edge of this brown shade is sharply defined below, but diffuse and running into ground color above. Its lower edge begins at base close to dorsal margin and tends slightly upward to beyond middle of wing, thence acutely upward in a nearly straight line into apex. The lower edge is roundly indented twice on its inner half, where it turns up to apex and opposite the outer margin. It is outlined outwardly by a luteous-grayish line. This, opposite the ocellic spot, is succeeded by a light-brown line, and beyond and defining the ocellic spot is a short luteous-gray line. The ocellic spot is but a shade of brown. All the space along the dorsal margin and before the outer margin below the middle brown streak is ground color, overlain with gray and ferruginous scales. The dorsal margin is dotted with black. Above the brown shade on the inner half of costa is a streak of ground color, on which are three black dots in a line on upper vein of cell. At middle of costa a faint brown line runs obliquely into the brown shade; just below the apex, six other pale-brown lines on costa, between it and apex, start obliquely, but are all separated from the first by a paler line just below costa. These spots are separated by short gray or leaden lines, one just before apex being the best defined, and it is shaded on both sides by whitish brown. Cilia white immediately below apex, with a fuscous dot, below light fuscous with ferruginous tinge, preceded by a dark-brown line, and divided by a slightly darker fuscous line. Hind wing smoky fuscous; cilia paler. Underside fore wing smoky fuscous, whitish along costa, with a black apical dot and dash of white in the cilia below it. Hind wing pale gray; cilia same. Abdomen fuscous, anal tuft dull ochereous. Legs creamy white, washed with light brown on tarsi. Expanse 13.5 to 15 mm.

Twelve specimens: Tryon, North Carolina, May 12, Fiske; Winchenden, Massachusetts, May 26 to June 2, F. A. Merrick; Plummers Island, Maryland, and Washington, District of Columbia, May 19 to June 1, A. Busck; Ramapo, New York, May 27, Kearfott; Caldwell, New Jersey, May 17-22, Kearfott; Wellington, British Columbia, June and July 4, Doctor Taylor and Bryant; Denver, Colorado, April 23, Oslar.

*Cotypes*.—Cat. No. 8247, U. S. Nat. Mus., and in my collection.

In the National Museum there is a specimen of this species labeled "diminuatana Wlsm.," but I have not been able to find the name or a

description in any of Walsingham's writings. Should it, however, be on record, this additional description will not affect his title to priority.

This species is close to *goodelliana* Fernald, which latter is very close to European *biarcuana* Stephens, which is probably wrongly accredited to America. *Goodelliana* differs from *diminuatana* in its larger size (28 mm.), the brown streak narrower and almost obliquely to apex, and an additional brown line from base nearly to middle below the middle streak. My comparison is made from a specimen of *goodelliana* identified by Professor Fernald. I can not detect sufficient difference between Eastern and British Columbian specimens to warrant separation. The ground color of the latter is more of a silvery white, and the browns a shade darker; otherwise the maculation is the same.

ENARMONIA AMERICANA Walsingham.

Four specimens, May 25 and July 4-5. Agrees very closely with Walsingham's figures and description, except that the hind wings of the male are dark brown, the same shade as female. In Edward's collection, American Museum of Natural History, New York, are specimens from California, labeled *americana*, by Fernald, which are not the same as Walsingham's figure or these eastern species. I am under the impression that *americana* is found both East and West, while there is a closely allied but distinct additional species in California, which has been mistaken for it.

ECDYTOLOPHA INSITICIANA Zeller.

One male, May 26. Larvæ in September in galls on the twigs of common locust.

GYMNANDROSOMA PUNCTIDISCANUM Dyar.

One male, July 3; one female, May 14. The condition of the former is that it may have been on the wing for a month or more, which may account for the considerable difference in dates.

CARPOCAPSA TOREUTA Grote.

One male, June 1. This is a particularly interesting capture, as, so far as I know, the species has never been taken since Grote described it. It is not represented in any of the public or private collections that I have seen.

EPAGOGE SULFEREANA Clemens.

One male, June 4. Of the medium size northern form, with pale hind wings.

SPARGANTHIS IRROREA Robinson.

One male, July 14.

## ARCHIPS ROSACEANA Harris.

One male, August 8; one female, no date.

## ARCHIPS PURPURANA Clemens.

One female, August 8.

## PLATYNOTA FLAVEDANA Clemens.

One specimen, August 14.

## PANDEMIS LIMITATA Robinson.

One male, June 3.

## TORTRIX PERITANA Clemens.

One female, August 12.

## TORTRIX FUMIFERANA Clemens.

One female, May 7.

## TORTRIX CONFLICTANA Walker.

One male, May 2.

## EULIA VELUTINANA Walker.

One male, August 14.

## PHALONIA FERNALDANA Walsingham.

Two specimens, May 5-29.

## PHALONIA BUNTEANA Robinson.

Two specimens, July 16.

## PHALONIA NANA ? Haworth.

One specimen, August 14.

## PHALONIA DUBITANA ? Hubner.

One specimen, August 12. I add an interrogation mark to this and the preceding species, as I am not by any means convinced that these European species occur in America.

## PHALONIA ANGUSTANA Clemens.

One male, May 20. There is certainly no reason why Clemens's name should not have been restored long ago. Robinson made it a synonym of his *dorsimaculana*, supposing that *angustana* was preoccupied in this genus in Europe. The European species is not a *Phalonia*, but belongs to an allied genus *Euranthis* Hubner. Besides other differences, Meyrick<sup>a</sup> separates these genera by veins III and IV of hind

<sup>a</sup>Hand Book of British Lepidoptera, p. 557.

wings stalked in *Euranthis* and separate in *Phalonia*, and gives figure of venation of this particular species, showing the stalked median vein. I also have eight European specimens in my collection, in all of which this vein is either short-stalked or connate. In the American *angustana*, as in all true *Phalonia*, veins III and IV are widely separated at base.

I think there is another mix up between *angustana* Clemens and *dorsimaculana* Robinson and *promptana* Robinson. The two latter were described at the same time, with very little difference either in descriptions or figures. I have not seen Robinson's types, but have carefully examined Clemens's type in Philadelphia, and from my present knowledge I would make *promptana* the synonym of *angustana* and leave *dorsimaculana* as a good but very closely allied species. I have long series, both male and female, of what I believe to be both species, and the most constant marks for separating them are the black dots on outer margin. *Angustana* has a single small dot just above the middle and a tiny one below the apex, while *dorsimaculana* has a marginal row of four horizontal black dashes. If further study should prove this analysis wrong, then both of Robinson's species may become synonyms of *angustana* and the species with the row of marginal dashes will have no name.

PHALONIA DORSIMACULANA Robinson.

Two specimens, July 10. See note above.